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EXAMINER

QUAN, ELIZABETH S

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| ART UNIT | PAPER NUMBER |
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1743

DATE MAILED: 05/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/057,451

Applicant(s)

RUEDIGER ET AL.

Examiner

Elizabeth Quan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-85 is/are pending in the application.
- 4a) Of the above claim(s) 53-85 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-52 is/are rejected.
- 7) ☒ Claim(s) 1, 2, 4, 6, 8, 10, 22-30, 37, 38, 43 and 46-52 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-52, drawn to an apparatus for performing process chemistry reactions in a plurality of reaction vessels, classified in class 422, subclass 102.
 - II. Claims 53-75, drawn to a reaction vessel carrying insert adapted for use in an apparatus for performing parallel chemistry reactions, classified in class 422, subclass 104.
 - III. Claims 76-80, drawn to a magnetic stirrer means for use in combination with a parallel chemistry reactor, classified in class 366, subclass 155.1.
 - IV. Claims 81-85, drawn to an extraction tool for use with a vessel receiving insert adapted to be removably received within an opening in the frame of modular apparatus for performing parallel chemistry reactions, classified in class 422, subclass 99

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not recite the particulars of the insert receiving opening, such as the insert being adapted to be removably received within the insert receiving opening in

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only a single orientation. The subcombination has separate utility such as a cardboard box for holding miscellaneous items, water bath for cooling a plurality of reaction vessels, or test tube holder.

3. Inventions I/II and III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention III has separate utility such as a mixer for homogeneously mixing a mixture, such as mixing a vat of cake batter, fan for propelling air, or propeller on an airplane. See MPEP § 806.05(d).

4. Inventions I/II and IV are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention IV has separate utility such as a valve mechanism or tweezer. See MPEP § 806.05(d).

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

6. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, Group I is not required for Group III, Group I is not required for Group IV, Group II is not required for Group III, Group II is not required for Group IV, and Group III is not required from Group IV, restriction for examination purposes as indicated is proper.

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7. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

8. During a telephone conversation with Deanna Baxam on 5/1/2003 a provisional election was made with traverse to prosecute the invention of I, claims 1-52. Affirmation of this election must be made by applicant in replying to this Office action. Claims 53-85 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

9. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Drawings

10. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "37" has been used to designate both corners and protrusions. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

11. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

12. Claim 1 is objected to because of the following informalities: In line 6 either “the” or “said” should be deleted. In the last line “therebetween” should be “in between.” Appropriate correction is required.

13. Claims 1, 2 are objected to because of the following informalities: “removeably” should be replaced by “removably.” Appropriate correction is required.

14. Claims 4, 6, 8, 10, 22, 23, 29, 30, 37, 38, and 43 are objected to because of the following informalities: “claims” should be replaced by “claim.” Appropriate correction is required.

15. Claims 24-28 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Since the insert extraction tool is accorded no patentable weight or not positively recited in claim 23 due to the recitation of using the apparatus in combination with an insert extraction tool without setting forth any steps involved in the process, structural limitations of the insert extraction tool as recited in dependent claims 24-28 fail to further limit the subject matter of claim 23.

16. Claims 46-52 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Since the magnetic stirrer means is accorded no patentable weight or not positively recited in claim 45 due to the recitation of using the apparatus in combination with magnetic stirrer means without setting forth any steps involved in the process, structural

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limitations of the magnetic stirrer means as recited in dependent claims 46-52 fail to further limit the subject matter of claim 45.

Claim Rejections - 35 USC § 112

17. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

18. Claims 1-52 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

19. Referring to claims 1 and 2, it is unclear what the limitation “a plate having an array of openings adapted to be aligned with the recesses, **respectively**” means. Is there a certain alignment between the openings and recesses? Following the recitation, it is unclear what the limitation “a septum and means for mounting said plate with said septum above said base, spaced from said insert, with said reaction vessels situated there between” means. It is unclear whether the claim is simply reciting that 1) there is a septum and means for mounting the plate and the septum is positioned above the base spaced apart from the insert with reaction vessels in between the septum and base or the septum and insert or the base and insert or 2) that there is a septum and means for mounting the plate and septum above the base, spaced apart from the insert with the reaction vessels situated in between the septum and base or the septum and insert or the base and insert.

20. Referring to claim 2, the apparatus has been claimed with first and second inserts when the apparatus with its insert receiving opening is only capable of receiving either the first or second insert at one time. The recitation is improper. Examiner has interpreted the limitation

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“first and second inserts adapted to be interchangeably removably received within said opening” to mean that an insert is capable of being removed and replaced with another insert. The apparatus does not have both first and second inserts at any one time. Therefore, if there is a single insert removable from the opening, the limitation is met.

21. Claim 3 provides for the use of the apparatus for performing process chemistry reactions in a plurality of reaction vessels with a standard automated liquid handler, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 3 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

22. Referring to claims 5, 7, 9, and 11, the claims do not specify whether 11.6 mm reaction vessel, 17 mm reaction vessel, 24 mm reaction vessel, and 34 mm reaction vessel refer to the length or diameter of the reaction vessel. The specification does not specify whether the dimensions refer to the length or diameter of the reaction vessel.

23. Claim 18 recites the limitation "said securing means" in the first line. There is insufficient antecedent basis for this limitation in the claim.

24. Claim 19 provides for the use of the apparatus for performing process chemistry reactions in a plurality of reaction vessels with a heat insulating pad, but, since the claim does not set forth

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any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 19 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

25. Claim 20 provides for the use of the apparatus for performing process chemistry reactions in a plurality of reaction vessels with a heat conducting plate, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 20 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

26. Claim 23 provides for the use of the apparatus for performing process chemistry reactions in a plurality of reaction vessels with an insert extraction tool, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is

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intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 23 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

27. Claim 45 provides for the use of the apparatus for performing process chemistry reactions in a plurality of reaction vessels with magnetic stirrer means, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 45 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 102

28. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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29. Claims 1-12, 15, 17-19, 20, 23-29, 37-42, 45-52 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 97/10896 to Mohan et al.

Referring to claims 1-12, 15, 17-19, 20, 23-29, 37-42, 45-52, Mohan et al. disclose an apparatus for performing process chemistry reactions in a plurality of reaction vessels (12) (see FIGS. 1-46). The apparatus comprise of a base (120), which has a frame with a wall defining an insert receiving opening (123) (see FIG. 27). An insert (140) is adapted to be removably received within the opening (123) (see FIG. 27). The frame has a bottom surface and the frame wall is inclined relative to a line perpendicular to the bottom surface of the frame (see FIG. 27). It appears that the inclination of the frame wall is approximately one degree since there is inherent imperfection in crafting perpendicularity between the frame wall and bottom surface of the frame (see FIG. 27). The insert (140) has an outer wall and a bottom surface such that the outer wall is inclined relative to a line perpendicular to the bottom surface (see FIG. 27). It appears that the inclination of the insert wall is approximately one degree since there is inherent imperfection in crafting perpendicularity between the outer wall of the insert and bottom surface of the insert (see FIG. 27). The inclination of the frame wall corresponds to the inclination of the insert wall (see FIG. 27). The opening (123) and the insert (140) are shaped such that the insert (140) can be received within the opening (123) in only a single direction (see FIG. 27). The insert (140) has an array of at least 48 reaction vessel receiving recesses each of which has an opening (see FIG. 27). A plate (30) has an array of openings adapted to be aligned with the recesses (see FIG. 27). The apparatus has fastening means (e.g. bolts or clamps) for mounting the plate (30) and septum above the

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base (120) and spaced from the insert (140) with the reaction vessels (12) situated in between (see FIGS. 1, 27, and 30; PAGE 6, lines 27-30; PAGE 12, lines 8-14; PAGE 14, lines 28-31; PAGE 15, lines 1-7; PAGE 17, lines 10-30; PAGE 18, lines 1-31; PAGE 19, lines 1-23). Since the fastening mechanism may be a bolt, the other part, which cooperates with the bolt to secure the stack, would be the slot into which the bolt fits. The apparatus is adapted for use with a standard automated liquid handler (20) capable of dispensing liquid to a plurality of preset locations in which the insert recesses are arranged to align with the liquid dispenser locations when the insert is received with the frame opening (123) (see FIG. 1; PAGE 11, lines 10-22; PAGE 12, lines 14-17). It is noted that the limitation "the apparatus of claims 1 or 2 adapted for use with a standard automated liquid handler capable of dispensing liquid to a plurality of preset locations" does not add any structural limitations to the apparatus claim and is therefore accorded no patentable weight.

Referring to claims 2 and 12, the limitation of the base of the apparatus comprising first and second inserts adapted to be interchangeably removably received within the opening has been interpreted that an insert may be removable from the base and interchangeable with another insert since the opening of the base cannot hold more than one insert at a given time. Since Mohan et al. disclose an insert (140), the insert (140) inherently meets the limitation since it is removable from the opening and replaceable by another insert.

Referring to claims 5, 7, 9, and 11, the claims recite each of the recesses is adapted to receive a 11.6 mm, 17 mm, 24 mm, and 34 mm reaction vessel, respectively.

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According to Merriam-Webster Collegiate Dictionary, adapted is defined as to make fit (as for a specific or new use or situation) often by modification. Therefore, each of the recesses only has to be made fit or have the potential or capability for performing the function of receiving an 11.6 mm, 17 mm, 24 mm, and/or 34 mm reaction vessel. The prior art does not have to teach or fairly suggest each of the recess performing the function of receiving an 11.6 mm, 17 mm, 24 mm, and/or 34 mm reaction vessel.

Referring to claims 6, 8, 10, since it is not clear whether “has” is open or closed language, Examiner has interpreted “has” as open language comparable to “comprising.” Therefore, since the insert (140) has at least 48 recesses, the insert has 24 recesses, 9 recesses, and 6 recesses.

Referring to claims 3, 19, 20, 23-28, 45-52, these claims are “use” claims. It is noted that these claims have been interpreted as intended use regarding the standard automated liquid handler, heat insulating pad, heat conducting plate, insert extraction tool, and magnetic stirrer means. Since the limitations have not been positively recited, they are accorded no patentable weight. It is noted that the apparatus of Mohan et al. can be used with an automated liquid handler, heat insulating pad, heat conducting plate, insert extraction tool, and magnetic stirrer means.

Therefore, Mohan et al. include all the limitations in claims 1-12, 15, 17, 19, 20, 23-29, 37-42, 45-52.

30. Claims 1-11, 15, 16, 18, 19, 20, 21, 23-29, 44-52 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,716,584 to Baker et al.

Referring to claims 1-12, 15, 16, 18, Baker et al. disclose an apparatus for performing process chemistry reactions in a plurality of reaction vessels (32) (see FIGS. 1A-7). The apparatus comprise of a base (18), which has a frame with a wall defining an insert receiving opening (see FIG. 2). The frame has an internal channel with an entrance port (18) and exit port (20) (see FIG. 2; COL. 3, lines 6 and 7). Temperature control fluid flows through the channel to control the temperature of the lower portions of the vessels (32) (see FIGS. 1A-7; COL. 3, lines 6, 7, and 54-61). A temperature control module (24) interposed between the frame and plate (14) surrounds the reaction vessels (32) to control the temperature of the upper portions of the vessels (32) (see FIG. 2; COL. 5, lines 24-35). An insert (6) is adapted to be removably received within the opening (see FIG. 2). The opening and the insert (6) are shaped such that the insert (6) can be received within the opening in only a single direction (see FIG. 2). The insert (6) has an array of at least 48 reaction vessel receiving recesses each of which is open on both ends such that there is an opening on the top and bottom of the recess (see FIG. 2). A plate (14) has an array of openings adapted to be aligned with the recesses (see FIG. 2). The apparatus has fastening means (e.g. bolts or clamps) for mounting the plate (14) and septum (12) above the base (18) and spaced from the insert (6) with the reaction vessels (32) situated in between (see FIGS. 1A-7). Since the fastening mechanism may be a bolt, the other part, which cooperates with the bolt to secure the stack, would be the slot into which the bolt fits (see COL. 3, lines 66 and 67; COL. 4, lines 1-4). The apparatus is adapted for use with a standard automated liquid handler capable of dispensing liquid to a plurality of preset locations in which the insert recesses are arranged to align with the liquid

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dispenser locations when the insert is received with the frame opening (see FIG. 2). It is noted that the limitation “the apparatus of claims 1 or 2 adapted for use with a standard automated liquid handler capable of dispensing liquid to a plurality of preset locations” does not add any structural limitations to the apparatus claim and is therefore accorded no patentable weight.

Referring to claims 2 and 12, the limitation of the base of the apparatus comprising first and second inserts adapted to be interchangeably removably received within the opening has been interpreted that an insert may be removable from the base and interchangeable with another insert since the opening of the base cannot hold more than one insert at a given time. Since Baker et al. disclose an insert (6), the insert (6) inherently meets the limitation since it is removable from the opening and replaceable by another insert.

Referring to claims 5, 7, 9, and 11, the claims recite each of the recesses is adapted to receive a 11.6 mm, 17 mm, 24 mm, and 34 mm reaction vessel, respectively. According to Merriam-Webster Collegiate Dictionary, adapted is defined as to make fit (as for a specific or new use or situation) often by modification. Therefore, each of the recesses only has to be made fit or have the potential or capability for performing the function of receiving an 11.6 mm, 17 mm, 24 mm, and/or 34 mm reaction vessel. The prior art does not have to teach or fairly suggest each of the recess performing the function of receiving an 11.6 mm, 17 mm, 24 mm, and/or 34 mm reaction vessel.

Referring to claims 6, 8, 10, since it is not clear whether “has” is open or closed language, Examiner has interpreted “has” as open language comparable to “comprising.”

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Therefore, since the insert (6) has at least 48 recesses, the insert has 24 recesses, 9 recesses, and 6 recesses.

Referring to claims 3, 19, 20, 23-28, 45-52, these claims are "use" claims. It is noted that these claims have been interpreted as intended use regarding the standard automated liquid handler, heat insulating pad, heat conducting plate, insert extraction tool, and magnetic stirrer means. Since the limitations have not been positively recited, they are accorded no patentable weight. It is noted that the apparatus of Baker et al. can be used with an automated liquid handler, heat insulating pad, heat conducting plate, insert extraction tool, and magnetic stirrer means.

Therefore, Baker et al. include all the limitations in claims 1-11, 15, 16, 19, 20, 21, 23-29, 44-52.

Claim Rejections - 35 USC § 103

31. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

32. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

33. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

34. Alternatively, claims 2, 5, 7, 9, 11, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 97/10896 to Mohan et al. or U.S. Patent No. 5,716,584 to Baker et al.

Referring to claims 2 and 12, neither Mohan et al. nor Baker et al. explicitly disclose the existence of a second insert with which the first insert (140) may be replaced. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Mohan et al. or Baker et al. to provide a second insert which can replace the first insert in the opening to provide greater efficiency by replacing a used, contaminated insert with a second insert rather than emptying and washing the first insert.

Referring to claims 5, 7, 9, and 11, neither Mohan et al. nor Baker et al. disclose the dimensions of the test tube. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the size (length, diameter, etc.) of the reaction vessel of Mohan et al. or Baker et al. to 11.6 mm, 17 mm, 24 mm, or 34 mm since it has been held that where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a

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device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device (*Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), *cert. denied*, 469 U.S. 830, 225 USPQ 232 (1984)). Additionally, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the size (length, diameter, etc.) of the reaction vessel of Mohan et al. or Baker et al. to 11.6 mm, 17 mm, 24 mm, or 34 mm as necessary to provide a sufficient volume for performing a certain assay or synthesizing a certain amount of product.

35. Alternatively, claims 5, 7, 9, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 97/10896 to Mohan et al. or U.S. Patent No. 5,716,584 to Baker et al. in view of U.S. Patent No. 6,171,780 to Pham et al.

Referring to claims 5, 7, 9, and 11, Mohan et al. and Baker et al. disclose that the insert has an array of 96-reaction vessel receiving recesses in the standard microtiter plate arrangement. Pham et al. disclose that the wells can have a depth between about 0.5, 1, 2, 3, 4, 5, 10, 20, or 50 mm and about 5, 10, 20, 50, or 100 and diameter between about 0.2, 0.5, 0.7, 1, 5, 10, or 50 mm and about 1, 5, 10, 20, 50, or 100 mm (see COL. 12, lines 52-67; COL. 13, lines 1-10). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Mohan et al. or Baker et al. to modify the size of the reaction vessel to 11.6 mm, 17 mm, 24 mm, or 34 mm since it is well known to change the size as necessary for performing certain assays.

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36. Claims 13, 14, and 30-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 97/10896 to Mohan et al. or U.S. Patent No. 5,716,584 to Baker et al.

Referring to claims 13 and 14, neither Mohan et al. nor Baker et al. disclose or show the shape of the recess. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to change the shape of the recess to either comprise a substantially conical portion or semi-circular portion, since it has been held that changing the form or shape is an obvious engineering design absent persuasive evidence that the particular configuration of the claimed invention was significant (*In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966)). Additionally, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the shape of the recess to conform with the shape of the reaction vessel.

Referring to claims 30-36, neither Mohan et al. nor Baker et al. disclose that the insert has rounded corners or frame has rounded corners. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the shape of the corners of the insert and/or frame round, since it has been held that changing the form or shape is an obvious engineering design absent persuasive evidence that the particular configuration of the claimed invention was significant (*In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966)).

Referring to claims 31 and 34-36, neither Mohan et al. nor Baker et al. explicitly disclose that the first and second rounded corners of the insert have different radii. However, it would have been obvious to one having ordinary skill in the art at the time

the invention was made to make the radii of the first and second rounded corners different since it has been held that where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device (*Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), *cert. denied*, 469 U.S. 830, 225 USPQ 232 (1984)). It is also noted that imperfection is intrinsic to duplicated elements, such that differences in radii in the corners are inevitable.

Referring to claims 35 and 36, both Mohan et al. and Baker et al. show that the insert fits within the frame of the base. Therefore, the radii of the first and second insert corners correspond to the radii of the first and second frame corners, respectively.

37. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 97/10896 to Mohan et al. or U.S. Patent No. 5,716,584 to Baker et al. in view of U.S. Patent No. 5,866,342 to Antonenko et al. and/or U.S. Patent No. 5,270,010 to Lautenschlager.

Referring to claim 22, Mohan et al. disclose a temperature sensing means.

Neither Mohan et al. nor Baker et al. disclose a thermocouple receiving opening in the insert. However, it is very well known to place a thermocouple in the reaction vessel holder to determine the temperature the reaction vessel is being subjected with.

Antonenko et al. disclose disposing a thermocouple in an opening, specifically an opening of a reaction vessel, so the temperature of the vessel can be determined (see COL. 2, lines 9-11). Disposing the thermocouple in an opening of the frame gives an idea of the temperature of the recesses, which may hold a reaction vessel. Lautenschlager

discloses a similar concept in which a temperature sensor is disposed in an opening on the case, which is analogous to the frame, receiving the vessel to determine the temperature. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Mohan et al. or Baker et al. to dispose a thermocouple in an opening of the insert as in Antonenko et al. and/or Lautenschlager to determine the temperature of the vessel.

38. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 97/10896 to Mohan et al. or U.S. Patent No. 5,716,584 to Baker et al. in view of U.S. Patent No. 6,054,100 to Stanchfield et al.

Referring to claim 43, neither Mohan et al. nor Baker et al. disclose the insert wall with an outwardly extending lip adapted to rest on the frame. However, it is well known to provide the insert wall with an outwardly extending lip to prevent the insert falling into the frame and making it difficult to remove the insert from the frame. Stanchfield et al. discloses an insert (12) with an outwardly extending lip (26), which divides the insert into sections and provides for easy fastening with the base and plate. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Mohan et al. or Baker et al. to provide the lip as in Stanchfield et al. for easy removal of the insert from the frame and fastening the stack together.

Conclusion

39. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They include one or more limitations in the claims.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Quan whose telephone number is (703) 305-1947. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (703) 308-4037. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Elizabeth Quan
Examiner
Art Unit 1743

eq
May 16, 2003


Jill Warden
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